

Bachelor's thesis

Degree program in Hospitality Management

Production in Management of Services

2013

Laura Parro

SMART TRAVELING WITH SMARTPHONES – OR IS IT?

– Study how usable are mobile travel applications



TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

Laura Parro

SMART TRAVELING WITH SMARTPHONES – OR IS IT?

Information technology (IT) is developing with high pace every day. The growth of technology today is tremendous and this reflects to the tourism field as well. This bachelor's thesis shows the impacts of IT to tourism business from the history of IT until today's technology's changes from Internet into smartphones Mobile Travel Applications. This study focuses on Mobile Travel Application usage and buying behavior of their users. Mobile Travel Applications, as any other applications, can be downloaded into smartphones and can travel anywhere with the consumers. Thesis is made for the Finnish travel magazine Matkaopas to introduce them also to mobile traveling.

To find out are smartphones making travelling smarter than before there has been used a self-administered online based Webropol survey. The questionnaire answers the research questions: what are the changes of customers buying behavior when using Mobile Travel Applications and are they usable for travelers around the world. The results of the questionnaire are being analyzed through quantitative method and in some of the questions has been used cross-tabulation to get a broader view of the respondents. In the questionnaire there are multiple choice answers and open answers.

The study reveals how Mobile Travel Applications are not being trusted and users do not see that buying trips from a mobile app a fast way of getting the wanted information. It can be said that some users do not have the knowledge and some are just more use to their computer and its Internet usage in general. Easiness and convenience are the key elements to future Mobile Travel Applications.

Mobile world is here to stay also in tourism sector. Furthermore it broadens the meaning of tourism business, where consumers have now possibilities for example to share their experiences in real-time. In this bachelor's thesis future mobile application creators can get new ideas straight from the users themselves.

KEYWORDS:

Tourism, smartphones, Information Technology, mobile travel applications, buying behavior, usability

Laura Parro

ÄLYKÄSTÄ MATKAILUA ÄLYPUHELIMILLA – VAI ONKO?

Tietotekniikka muuttaa maailmaa päivittäin yhä uudemmillä keksinnöillä ja saavutuksilla. Nämä mullistukset näkyvät myös matkailualalla. Tämän hetken uusimpiin villityksiin kuuluvat älypuhelimet ja niihin ladattavat sovellukset. Tämä opinnäytetyö käsittelee älypuhelimien käyttöä matkailussa erityisesti niihin ladattavien mobiilimatkalusovellusten valossa. Teoriaosuudessa pureudutaan informaatioteknologian historiaan, tähän päivään ja sen vaikutuksiin matkailussa lyhyesti. Näillä näkökohdilla pyritään ymmärtämään tämän päivän muutoksia mobiilikäyttäjien ostokäyttäytymisessä. Opinnäytetyö on tehty Matkaopas-lehdelle, tutustuttaakseen heidät osin mobiiliin matkailuun.

Tutkimus perustuu sähköiseen Webropol-kyselyyn. Kyselyssä haettiin kuluttajien näkemyksiä matkalusovelluksiin ja niiden käytettävyyteen. Tutkin työssäni, mitkä ovat kuluttajien muutokset ostokäyttäytymisessä, kun käytettävissä on mobiilimatkalusovellus, sekä ovatko sovellukset käytettäviä maailmanlaajuisesti. Tutkimusosuudessa on käytetty kvantitatiivista eli määrällistä metodologiaa. Kyselyssä on käytetty monivalintakysymyksiä ja avoimia kysymyksiä.

Tutkimuksen tuloksissa ilmenee se, kuinka suurin osa vastaajista ei luota sovelluksiin, eivätkä koe puhelimesta ostamista luotettavana tai nopeana. Vastauksista selviää, että useampien käyttäjien taidot ovat mobiilisovellusten osalta jokseenkin puutteellisia ja monet ovat tottuneet käyttämään tietokonetta tehdessään matkavarauksia ja ottaessaan kohteesta selvää mieluiten internetin avulla. Internetin käyttö omalla tietokoneella koetaan helpoksi ja luotettavaksi.

Mobiilit matkalusovellukset mullistavat matkailualaa ja matkailun merkitystä; kuluttajilla on nyt mahdollisuus esimerkiksi jakaa kokemaansa reaaliaikaisesti. Tässä opinnäytetyössä tulevaisuuden mobiilisovellusten luojat saavat vinkkejä suoraan kuluttajilta itseltään.

ASIASANAT:

matkailu, älypuhelin, informaatioteknologia, mobiilimatkalusovellukset, ostokäyttäytyminen, käytettävyys

CONTENT

1 INTRODUCTION	6
2 INFORMATION TECHNOLOGY (IT) IN TOURISM SECTOR	7
2.1 History of the IT in Tourism	7
2.2 Effects of IT in Tourism	10
2.3 Today's Implementations of IT in Tourism	11
3 SMARTPHONES IN TOURISM SECTOR	13
3.1 What Are Smartphones?	13
3.2 Mobile Travel Applications	14
3.3 Usability of Smartphones	17
3.4 Buying Behavior of Smartphone Users	20
4 STUDY ON MOBILE TRAVEL APPLICATION (MTA) USERS	23
4.1 Research Methods	23
4.2 Results of the MTA Questionnaire	24
4.2.1 Background of MTA Usage and Buying Behavior	24
4.2.2 Usability of MTA's	28
4.2.3 Users Opinions of MTA's	31
4.3 Discussion and Future Predictions	31
5 CONCLUSIONS	36
REFERENCES	37

APPENDICES

Appendix 1. Mobile Travel Application Questionnaire

Appendix 2. MTA Questionnaire Answers

PICTURES

Picture 1 Demographics of private smartphone users who use the Internet on their smartphones (Google 2012, 41)	13
Picture 2 People who prefer making a hotel booking via their mobile application (Mobile Apps ETC Digital 2012)	15
Picture 3 How smartphones inform our daily lives (Google 2012, 15)	16
Picture 4 Internet accessed by you (GSMA 2012)	18
Picture 5 Communication and information needs in the three stages of tourism consumption (Buhalis & Costa 2006, 10)	19
Picture 6 "Long Tail" -model (Connon 2011)	22

FIGURES

Figure 1 If the trip has the same price where do you prefer to buy?	25
Figure 2 How often do you use your Mobile Travel Applications?	27
Figure 3 When do you use your Mobile Travel Application?	28
Figure 4 What kind of difficulties have you had when using your Mobile Travel Application?	29
Figure 5 What is the best service when using a Mobile Travel Application?	30

1 INTRODUCTION

Information technology (IT) has grown tremendously in the past ten to fifteen years. It has brought many new opportunities to the people in almost every business field. This Bachelor thesis discusses about the changes IT has brought to the field of tourism industry. It reflects the changes from the past until today. This study focuses on the newest phenomenon – smartphones, and the way they are linked to the business of travelling.

This work introduces the reader to the smartphone downloaded Mobile Travel Applications related to tourism business. It highlights the buying behavior and usage of these applications. It discusses the changes that the smartphones and especially the applications have brought to this specific field. A questionnaire survey was conducted to find out about how the mobile travel applications really work and how many people are using them, what can be made better to the future users. The research questions are: what are the changes of customers buying behavior when using mobile travel applications and are these usable for travelers all around the world.

Tourism business is going to be one of the biggest businesses in the global economy when taking into consideration the facts that the world's population ages and travelling becomes cheaper and quicker every day (Tsiotsou & Ratten 2010, 533). That is why new technological developments being used correctly are the key factors for the future tourism business to grow.

This work is done for a Finnish travel magazine called Matkaopas-lehti. It is one of the leading travel magazines in Finland. They want to know the upcoming trends of the industry and be ahead of consumers' point of view. This study will give new perspective to the new trend in travel business: Mobile Travel Applications.

2 INFORMATION TECHNOLOGY (IT) IN TOURISM SECTOR

2.1 History of the IT in Tourism

The world wide networking started its use in the early 1990's. Since that time it has grown faster than any other development in the world. It has opened a whole range of new possibilities taking into account that it is global, free, everywhere and available to everyone. Furthermore, tourism is the fastest growing and also the largest industry in the world (Sheldon 2001, 1). When combining these two, Information Technology and tourism business, it will serve a new area in communication and as a distribution channel for the suppliers in terms of travel services and products but also for electronic travelers, also known as e-travelers, from all over the world (Castaneda et al. 2007, 402). An e-traveler is a user of World Wide Web (WWW) searching for information of tourism field. Taking into consideration that all travel causes people to communicate and interact with others and with the help of Internet it is thereby easier to give a rise to global connectivity. Cooperation of IT and tourism is becoming strongly the backbone that facilitates tourism. (Sheldon 2001, 2) The synergy combined with technology on the mobile devices it is clear that the possibilities in tourism are limitless.

Before Information Technology was invented the communication between humans can be described as a significance of telecommunication and its development. Telecommunication means an information flow from a place to another. Since the last century the word "telecommunication" has had a big meaning as a future communication model to people. Humans have been trying to enhance the communication between each others with different methods. First messages were sent by using messengers. It has been said that the marathon runs began from a situation where the message had a time critical situation of getting the message across. Different places and situations had their own styles to communicate: American Indians were using smoke signals, boats used different

kinds of flags to communicate with each other etc. (Hämeen-Anttila 2003, 2-4) Modern human is said to have developed when the time and place of a message was not an issue anymore.

History of Information Technology begins from a so called electronic age in the 1920's where new methods for communication were rising. These methods were for example an echo sounding device for U.S. military which was an early idea for a radio. (NOAA Ocean Explorer 2010) After the invention of radio came multiple other communication devices especially during the Second World War. In 1944 came the invention of personal computer also known as PC as a co-operation of U.S. military, Harvard University and International Business Machines (IBM). This Mark-I became the first stored program computer in history. (Nieminen et al. 1999, 63) After that came an IBM SYSTEM/360 computer to the civic use in year 1964. For the public it was marketed as an efficient, cost-effective and fast way to solve all scientific and commercial issues. (Nieminen et al. 1999, 68)

Information Technology refers to managing the data in electronic devices although sometimes this is mistakenly referred to the whole industry (K-Alliance 2006-2012). Technology can be defined as an intention to control and perceive the surrounded reality. Also Information Technology was developed from this perspective as an aspiration to control and master humans in the 1960's. (Nieminen et al. 1999, 62) Information and communication technologies (ICT's) can be divided into four eras of technological evolution. These are *data processing era*, *management information systems era* (MIS), *strategic information systems era* (SIS) and *the network era*. Data processing era took a place in 1960s when the main thing was to develop "operational efficiency by automating information-based processes" which was used in mainframe computers by major companies as airlines (Buhalis 2003, 11). Management information systems era (MIS) in 1970s means an era when managerial effectiveness was increased by internal and local data of information resources to maintain decision-making processes. During 1980s the strategic information systems era (SIS)

there were integrated ICT networks which helped to support competitive advantage between businesses and organizations. The fourth era of network in the 1990s made local area networks and wide area networks to communicate with one another as “multilevel integration and efficient collaboration” (Buhalis 2003, 12). This has made it possible for businesses and organizations to use ICTs for almost every commerce task from production to marketing. (Buhalis 2003, 11-12)

The Internet was another development of U.S. army when U.S. Defence Department created an experimental network designed to support military and scientific research (Connon 2011). Firstly it was created to build networks that could continue to operate even if certain areas of it were not working. This was called as a model of distributed networks. (Bilgil 2009) Aim was to build a network that would not slacken when it would be a target of an attack. The most important thing was to have an open communication system where objective data was seen as an easy and fast way to communicate. (Nieminen et al. 1999, 77) In the 1980's it was made possible to link Local Area Networks (LAN) - a data network intended to serve an area of only a few square kilometers or less. There were multiple technologies that had been developed to support this. The LANs were changed to allow them communicate with each other as a reach to an early Internet era. First users or early adopters of the new technology were academic communities. Year 1993 Tim Berners-Lee released the World Wide Web (WWW) of The European Laboratory for Particle Physics in Switzerland (CERN) which was a software application which used hypertext transfer protocol (HTTP) and hypertext links. The first graphical web browsers called Mosaic and Netscape Navigator were introduced after this. With their intuitive nature and graphical interface these browsers made the WWW and the Internet more appealing to the general public. Internet took up the use of the personal computer's (PC) dominant position. World Wide Web was praised to be one of the most important developments in communication since the printing press and no one knows what there is still to come in the future technological developments. (Connon 2011)

2.2 Effects of IT in Tourism

The effects of the fast grow in the Information Technology has had huge impact on travelling and the tourism sector in general. These information and communication technologies (ICT's), which can be defined as a combined term given to the most recent developments in the electronic innovations as computers and communications technologies, are used for "the acquisition, processing, analysis, storage, retrieval, dissemination, and application of information" (Buhalis 2003, 7). Tourism sector is an industry where businesses rely on their partners and suppliers to collaborate closely to deliver their products to their consumers. With this being said ICTs effect to tourism is immense. That makes it also possible for the travelers and general public to interact with the companies and their partners. (Buhalis 2003, 147-148)

How Information Technology in Internet effects on the tourism sector can be seen from the marketing perspective. Airlines have been the early adopters in this field to paint their Internet addresses on the aircraft and Marriott hotel chain was one of the first to launch their website (Buhalis 2003, 148). To market travelling facilities in the Internet is not only inevitable in today's world but also vital to the tourism business in general. For tourism business, Internet is the primary source to seek information about travelling (Egger & Buhalis 2008, xxxvii). Looking at the consumers point of view, planning a trip consist of efficient, accurate and timely information flows, that link between the travel service provider and the consumer. Between those two it is inevitable to have the marketers who will get the right people into the right places. The use of Information Technologies to market tourism is making it happen seamlessly when there are no issues on transmitting the information in time or the links breaking down and not working correctly. Marketing information in the tourism sector is also highly intangible because of the fact that the consumers are not able to see, touch or feel a purchased trip in advance. That is why they need detailed information of the destination, service or product.

Online bookings in flights, hotels, car rental, restaurants, and destination attractions etc. are an effect of Information Technology's control over the tourism industry. A downside of the IT is a disintermediation effect. This occurs when a company is no longer needed in the supply chain of a supplier. For example in the tourism field these are the traditional travel agencies which no longer needed when IT is involved between the supplier and the consumer. Retail is now going to be in the 'market spaces' not in the market places where they physically meet (Hemminki 2010). New technologies in tourism field are trying to reach their customers by offering customized services, and are also competing efficiently with other retailers and distribution channels (Tsiotsou & Ratten 2010, 537).

2.3 Today's Implementations of IT in Tourism

Today digital living is not dependent of the time and place and people operate usually from distance. Internet has brought new practices to users such as "home shopping, tele-entertainment, tele-working, tele-learning, tele-medical support and tele-banking" (Buhalis 2003, 33). These are particularly significant for people who live remote and peripheral areas where there is hard to be in contact with various kinds of suppliers. Today many elderly people are using Internet as well, according to Finnish statistics center Tilastokeskus (2013) there are over fourth of 75 to 89 aged users online. In the age group of 16 to 34 everyone has been using Internet in the past three months. In Europe only other Nordic countries and the Netherlands and Luxemburg Internet usage is more common than in Finland. (Tilastokeskus 2013)

On-line communities are defined as users who live in different places all around the world but communicate with one another through Internet. These virtual communities can be established between people with common interests, therefore travelling and tourism is one good reason to communicate and share experiences through web. One of these websites is TripAdvisor where people can write their own thoughts of the visited places (TripAdvisor 2013). One of the

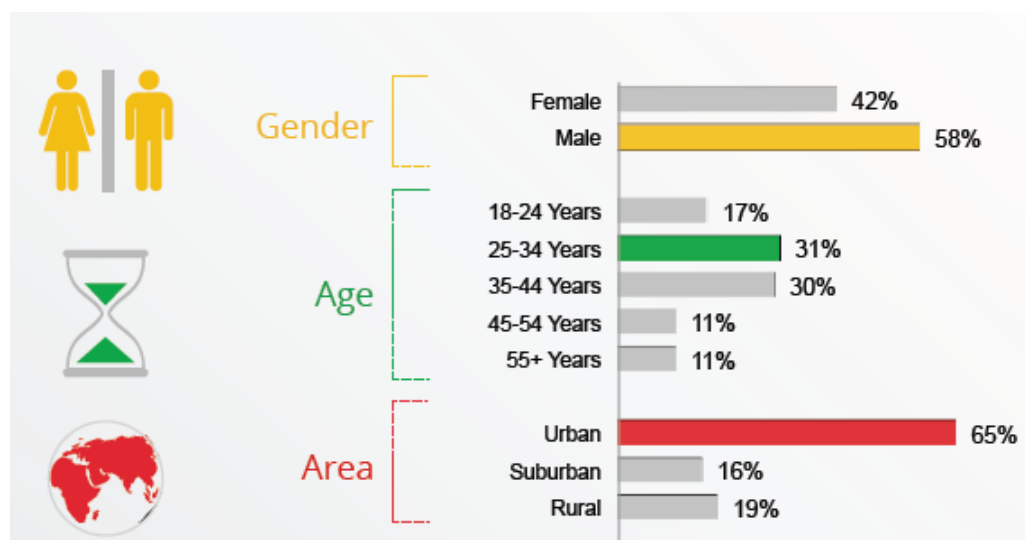
most common use of the new technologies is to share own experiences through social media (Facebook, Twitter etc.) (Buhalis & Costa 2006, 13). This is the highly spoken word-of-mouth (WOM) phenomenon which happens today online, where people can recommend and also not recommend places to visit to their online friends.

New technological developments occur almost every day but also the demand for this is growing. Users and buyers are more involved in the making of the products. There are many devices today which are being used by consumers from daily basis and as the web content is available on and offline. Users are starting to expect feedback from the tourism industry '24/7' where the time zones have no limits whatsoever. Internet has changed the perception of time and place what means for travel and tourism business new strategic models in marketing and new methods to the field in general. (Buhalis & Costa 2006, 12)

3 SMARTPHONES IN TOURISM SECTOR

3.1 What Are Smartphones?

Smartphones are said to be *wearable computing systems* which can be used anywhere the person goes. Internet access and calls can be made almost everywhere in the world. (Buhalis & Costa 2006, 13) As a term smartphone means “an interpersonal communication device to a multimedia machine...It contains functions such as instant messaging, downloading applications, utilizing information services such as WiFi and global positioning system (GPS) and entertainment” (Ting et al. 2011, 193). Its use has sky rocketed in the past few years. According to Google research of Internet usage by smartphones the demography shows that Males aged 25 to 34 years old living in urban areas in the United States of America are the top users as seen in picture 1 below (Google 2012, 41). Today in Finland mobile phone has become more common also for the elderly people. Only one in seven is without a mobile phone but smartphone has only 5% of the age group 75 to 89. According to Finnish statistics center Tilastokeskus (2013) the whole population of Finland owns a smartphone by 56%. (Tilastokeskus. 2013)



Picture 1 Demographics of private smartphone users who use the Internet on their smartphones (Google 2012, 41)

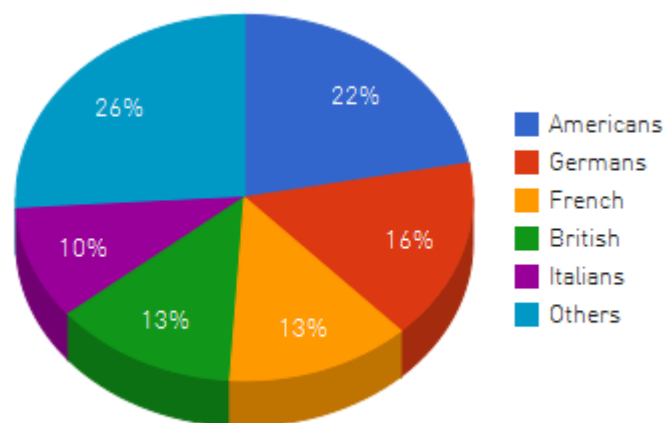
According to Doughty (2011, 90) all over the world the smartphone sales have exceeded the expectations with approaching the point where one in five mobile phones are smart. The known smartphone operating systems are called: Symbian (Nokia), Android (Google), iOS (iPhone), Blackberry OS, Windows Mobile (Microsoft) (Doughty 2011, 90). It is said that for smartphone users their phone is not only a communication device but also a continuation of their personality and definition of who they are as a human being (Persaud & Azhar 2012, 418).

Smartphone use had made it possible to reserve restaurant tables and hotel rooms while on the road by using different types of applications or search engines. It goes without saying that this kind of information access and communication possibilities will impact on tourism when searching travel patterns in travel planning behavior before, during and after a trip. This means for many tourism businesses that the reservation cycles will become increasingly shorter (Buhalis & Costa 2006, 13). Using technology throughout all phases of the trip indicates that consumers are not only well informed but also more engaged to the outcome of their customer journey. The knowledge of when, where and why traveler is using this new technology form can considerably help tourism industry to anticipate future wants and needs of a consumer. (Buhalis & Costa 2006, 13) Sometimes users can find out information that they were not even considering off. Smartphones are the newest phenomenon in tourism business to taken into serious consideration, especially Mobile Travel Applications which can help the traveler to enjoy its trip in a way that no other device, until this point, has been capable of.

3.2 Mobile Travel Applications

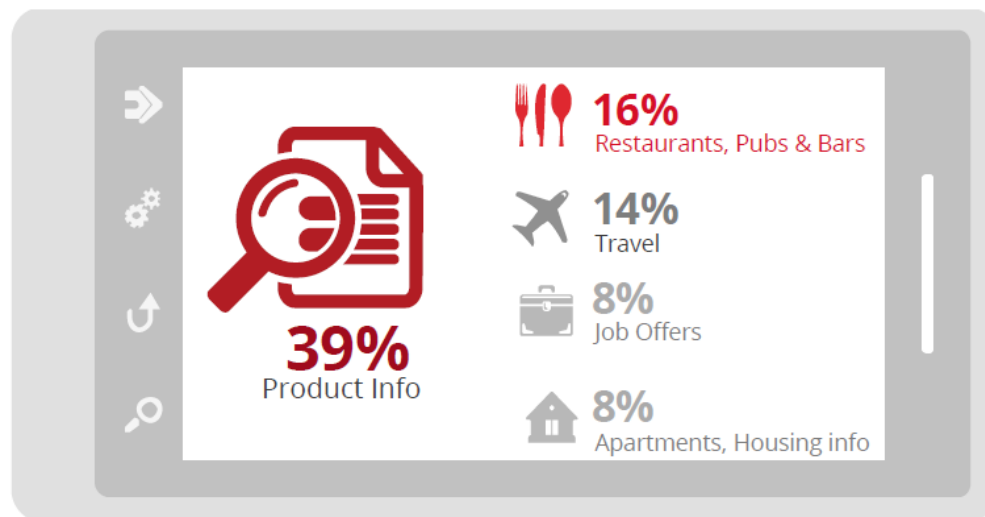
According to Worldmate Mobile Travel Application is the program that synchronizes the entire trip into the mobile device, having the whole itinerary in one place (Worldmate). These applications can be divided into travel agencies, hotels, car rental, airlines etc. separate applications or into one whole mobile travel tour operator application for instance Triplt or tripmate247 where you can find

all your travel information from one place on your mobile phone. Mobile Travel Applications such as Triplt or tripmate247 advert themselves as a personal tour guide in your pocket at all times. They say they are an all inclusive management solution to book and manage trips by preferred language and currency. Users' favorite hotel or flights are only few taps away with the smartphone. (Trip-mate247) A Mobile Travel Application is seen as an application which can help the user when planning a trip, on a trip and after a trip. This can be a simple browse to a service provider like British Airways to see if the connection flight is on time or check-in on board by using the boarding pass on the device or using for example TripAdvisor to inform other online users if the trip was successful or not. According to New Media Trend Watch (2012) there are 48% who are using their smartphone to plan their trip, 44% who are dreaming of their next trip and 44% smartphone users who research their travel while traveling. Since 2009 the number of mobile travelers has increased over 450%. (New Media Trend Watch 2012) According to ETC there was made a study about the hotel reservations made by using a smartphone. Study shows how Europeans are most likely to book a hotel via their mobile applications with 52% of the answerers, 26% of other countries and lastly 22% of Americans as in the picture 2 below. (Mobile Apps ETC Digital 2012)



Picture 2 People who prefer making a hotel booking via their mobile application (Mobile Apps ETC Digital 2012)

Application stores for smartphones have been rising in the past few years. As stated by Doughty (2011, 90) before 2008 there had been made application stores for only nonprofit or nongovernmental organizations like Handango and Phoload but since Apple App store opened it have taken more and more root in all kinds of users and also applications providers have made new improvements since the early stages of smartphone usage. According to Google (2012) research there are a growing number of Mobile Travel Application users where 16% of private smartphone users use their phones to search for restaurants, pubs and bars and 14% search for travel information as seen in the picture 3 below. This research was done for 1000 private smartphone users in the United States. (Google 2012, 15)



Picture 3 How smartphones inform our daily lives (Google 2012, 15)

Wireless Application Protocol (WAP) was invented to have same Internet sites available on the mobile phones. This made it possible to have alerts on the phones by using applications, which means that application providers able the consumer to follow up situations as they happen. For example alert of British Airways application from a full booked flight can make it possible for the customer to book an alternative seat for a next flight. This kind of thinking is called an *intelligent electronic assistant* where the service provider can think a head of the customer on situations that can be problematic or not. (Buhalis 2003, 21)

3.3 Usability of Smartphones

Smartphones are devices which can be used anywhere and for many causes. At any time and any place for the convenience of the users are these portable little devices. Smartphones are smart to have in a pocket to access work information, to communicate with people, to relax example by listening to music or play games, to search information to travel and many more. In the current mobile revolution a location set workstation is not an issue anymore when smartphone is portable to every where the person goes. (Ting et al. 2011, 194) The dual-use of laptop and mobile phone as a smartphone makes many consumers think about their consuming patterns. Some new buyers of smartphones have bypassed the usage of laptops and ended their Internet broadband connection to save money and have it as a mobile broadband connection only. It is said that “by 2015 more users will access the Internet through their mobile devices than anything else” (New Media Trend Watch 2012).

According to ISO 9241-11 the term usability is defined as: “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (Usability Net 2006). According to New Media Trend Watch (2012) the easiness of the usage of smartphones and their applications will drive the future consumers. This is mainly because users today are more and more secure and confident at planning, researching and booking trips on the move (New Media Trend Watch 2012).

Usability of smartphones depends mostly on an access to Wireless Internet called WiFi. The number of WiFi access providers like trains, airlines, busses, cities etc. is growing everyday which makes smartphone usage also easier to get access into the applications that work when connected to Internet. (Buhalis & Costa 2006, 13) Also a high cost of WiFi access on a smartphone is no longer an issue because of the intense competition of different service providers had made the costs as low as possible so that even more and more people can have an Internet connection on their smartphones and access the applications.

However there are offline applications available also which means that the mobile application can be used when there is no WiFi connection available in the phone.

The roaming costs are one of the biggest concerns of today's mobile user. With roaming it is meant "the geographical coverage area of network provider". Mobile roaming can be explained by picture 4 below where access to the local network provider is going through international transit services, from there to home network and finally the mobile phone is connected to Internet. (GSMA 2012) Roaming can be switched off when leaving home area and that way the costs of roaming abroad can be avoided.

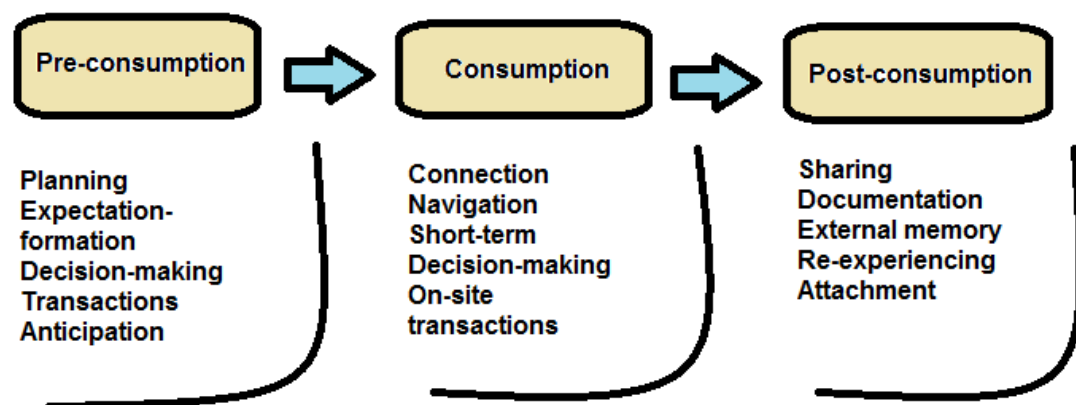


Picture 4 Internet accessed by you (GSMA 2012)

Today suffering from information overload can be a problem to many smartphone users. Information about thousands of destinations, events, restaurants, hotels, car rentals etc. can be found from just one click away by using Google or Yahoo tools of smartphones. For the consumers this can be stressful and problematic to find the right kind of information with preferences of the user. (Cao & Nguyen 2012, 256-257). Cao and Nguyen (2012, 256) have implemented a system called the Semantic Tourist information Access and Recommending (STAAR) which helps tourists to find relevant information aimed for them to plan their itineraries and trips using web and smartphones. This helps the user

to make their trip personalized and individualized because of the system asking for specific preferences of the user. The application system asks for wants and needs of a user and where they can pin point only the services or places they want to experience on a trip. After this the application makes the search and guides the user through its travel.

As seen in the picture 5 below by Buhalis and Costa (2006, 10) the tourism consumption can be divided into three communication and information needs of a consumer. These stages can be also used in the usability of a smartphone application. In the Pre-consumption phase the user wants to plan, format the expectations of the upcoming trip, make decisions, transactions and make their own personal anticipations of the journey. Consumption phase happens on a trip where the important factors for a tourist are the connection, navigation, short-term decision-making process of for example in finding a decent restaurant and also the on-site transactions of events around the destination etc. Lastly is the phase of post-consumption which happens after the trip is made. The needs of a tourist are to share and document the experiences, activate the external memory and re-experience the trip again and also to make attachments to the visited sights and places to re-experience the trip once again.



Picture 5 Communication and information needs in the three stages of tourism consumption (Buhalis & Costa 2006, 10)

3.4 Buying Behavior of Smartphone Users

The new era for travelers to find the best technology to the need identification and personalized content and design of travel has become an important factor (Buhalis & Costa 2006, 13). Consumers buying behavior in tourism should be divided into experienced and inexperienced travelers. This distinction should also be made in online users. Buhalis (2003, 131) describes these users as *destination-knowledgeable* and *destination-naïve* consumers. Destination-knowledgeable users are the ones who have visited the place and used its facilities or products several times whereas destination-naïve are the consumers are the first-time users who feel uncomfortable and unsecure about the destination or products.

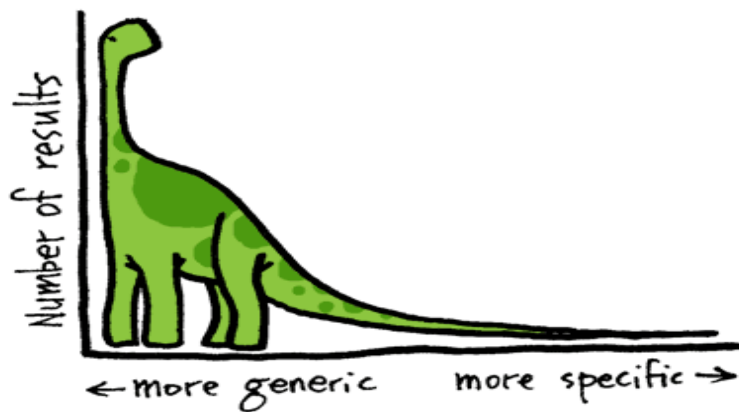
The feel of security is also important for the users of smartphones and its travel applications. For the application makers and marketers the acknowledgement of the consumers' needs and wants has to be clear in order the travel industry to succeed with smartphones. These days the customers are in forefront of the marketing tactics because they are telling the companies what they want to get for their money. Money has a bigger value now than ever before (Castaneda et al. 2007). Customer reviews are being shown in the Internet chat pages or blogs written by usually an anonymous customer. When that is being said it means that today's customers are the ones who produce their own products and services to fit their own needs and desires or depending on what other people have said about it. Today's tourists have become the producers of information for tourism suppliers and destinations. They no longer only accept the information that is given to them and consume the tourism services as they are. (Tsiotsou & Ratten 2010, 537) What also can be taken into consideration is that customers guide other customers on their decisions (Ruiz-Molina et al. 2010, 468).

Value of time and value of money will also be equally important for the future consumers. The rapidity in the enquiries and interaction with the supplier is made easier for the smartphone user and then also for the user of an applica-

tion. As Buhalis (2003, 132) states there will be more and more emotional decisions made when a consumer is put under a time pressure situation for example by a travel application provider. This kind of situation could be when booking a flight where the time pressure has usually the most impact on the buying behavior. Flights are generally cheaper when the booking is made in early and as the time goes by it will become more expensive.

Furthermore, for tourism marketers on smartphones the target market needs to be clear before entering the industry. As Buhalis and Laws (2001, 319) state to be the future consumer applies as well for the smartphone users and their buying behavior. From their perspective the future consumers insist better service. These consumers are well educated and look for products that can educate and inform them. They are willing to spend more money on travel but on the other hand can have shorter planning horizons, which means quicker action in the service providers' site and in this case in the application providers' behalf. They seek individual traveling packages which results more segmented marketing tactics. They ask more value for their money which makes them more critical consumers than before. (Buhalis & Laws 2001, 318-319) Customer satisfaction is dependent on the exactness and comprehensiveness of valid information which concerns destination accessibility, services and attractions (Buhalis 2003, 132).

One method in measuring this, what the consumers expect and want from future services in the mobile world is the "Long Tail" –model (picture 6). The parts of the model can be called: head, shoulder and tail. In the "head" part there is a wide spectrum of different kinds of services and service providers and focus on the audience is broad plus the costs of the production are big. "Shoulder" part is when there is a clear niche for the application, when it is explicit who is the end consumer and the service provider. Lastly "tail" part refers to a micro level audience and the cost of the content production is minimalist. (Dawson 2007)



Picture 6 "Long Tail" –model (Connon 2011)

From the *conspicuous consumption* when smartphone usage was something that was striking to see has now become to be the ordinary everyday accessory to many consumers (Ting et al. 2011, 194). However the smartphone users are still unsecure to use their device to buy trips using the applications. This might be the question of false marketing tactics. There is not enough evidence shown about the safe sides of buying from apps and the word-of-web has not increased among application users of their experiences.

4 STUDY ON MOBILE TRAVEL APPLICATION (MTA) USERS

4.1 Research Methods

The study was a self-administered quantitative web-based survey (appendix 1.). It was implemented in Webropol which is an online survey and analysis software. The survey was completed and evaluated with five smartphone users who suggested minor improvements in the questionnaire. These were used to fine-tune the final questionnaire. Survey focused on finding Mobile Travel Application users from all around the world, their implication of the used applications and the purchase behavior between other devices, which include Internet connection or a traditional travel agency.

There were 19 questions in all. First four questions were about the demographic information of the user: gender, age, origin and education status. The questions from five to nineteen were divided into two categories: 1. Information about the buying behavior of trips and 2. information about the usage of Mobile Travel Applications. There were three questions where the answerer could answer in their own words and could choose preferable language from English, German, Finnish or Swedish. All the other questions were multiple choices.

It was a quantitative web-based questionnaire where the amount of the respondents had the biggest impact on the survey and the questions were multiple choice questions. Quantitative questions were used to get a picture of how many users use smartphones to their trips and travelling. Cross-tabulation was used between male and female users of the age groups 21-30 and 41-50 because most of the answers were from these ages and it was interesting to compare these ages with gender. Cross-tabulation was used in questions 11, 13, 14 and 17.

Participants were recruited and contacted by social media (Facebook) and e-mail and then asked to forward the questionnaire to other smartphone users.

This means that snowball sampling procedure when choosing the candidates to answer the questionnaire was used (Veal 2011, 370). Online survey was chosen to get a random and quick sample of smartphone users across the globe. The survey was active for two months from October to November 2012.

4.2 Results of the MTA Questionnaire

The results are divided under three topics which are based on the questionnaire. First results will look at the background information and usage of MTA's. Secondly the results shows, how usable are Mobile Travel Applications for the respondent. Thirdly the MTA's are being surveyed from the respondents' point of view.

4.2.1 Background of MTA Usage and Buying Behavior

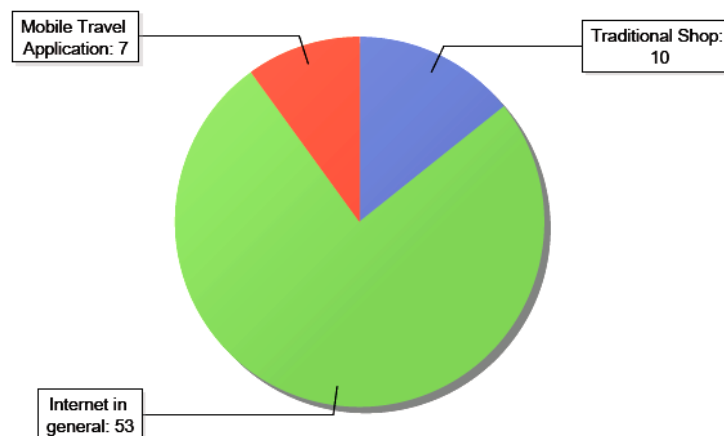
There were 72 anonymous respondents where 41 male and 31 female. Most of them were between 21 to 30 year of age (38) secondly between 31 to 40 year old (13) and thirdly between 41 to 50 years (9) (N = 72). Most of them were from Europe (over 65) (N = 71) and most of them had a bachelor's degree (44) (N = 72). 65 respondents owned a smartphone but only 38 had downloaded a Mobile Travel Application in them (N = 72). Four of the respondents did not know if they had an application in their smartphones.

After question 6 there were more specific questions of the Mobile Travel Applications and the buying behavior. In question 7: "Which mobile travel application have you used when booking a trip?" here respondents could choose as many answers as they preferred (N = 45). Price comparison apps had the majority of answers (25) direct apps from car rental, airline, hotel etc. with 21. Question 10 asked respondents would buying trips from MTAs would be less time consuming. Most of the respondents (35) think that buying a trip from a Mobile Travel Application would not be less time consuming than buying it somewhere else. 21 did not know how time consuming it would be compared to other ways of

buying a trip and 14 thought that smartphone is a fast way when buying a trip. Most convenient way of shopping was from Internet rather than using a mobile application with 52 answers and 46 did not think that an application is convenient at all (N = 58). Even if the trip has same price on Internet, mobile application and in a traditional shop the respondents would still most likely buy it from the Internet (53) as seen in the figure 1 below. And as the cross-tabulation of figure 1 show that most of the females, aged 21 to 30, prefer the Internet even if the trip has same price somewhere else. However, males, aged 21 to 30, are more tolerant to other ways of buying when answers are more evenly distributed.

11. If the trip has the same price where do you prefer to buy?

N=70



	Age:, Gender:			
	21-30, Male (N=11)	21-30, Female (N=25)	41-50, Male (N=7)	41-50, Female (N=2)
Traditional Shop	3	2	1	0
Internet in general	5	21	6	2
Mobile Travel Application	3	2	0	0

Figure 1 If the trip has the same price where do you prefer to buy?

After question 11 the answer amount dropped drastically from 70 to 48 responds. Question 12 asked to specify why respondents would prefer to buy the

trip from traditional shop, Internet or Mobile Travel Application in their own words (N = 48). As the figure 1 shows most of the answers were pro Internet usage and this was included in most of the answers. All together there were 42 answers which were two full pages of respondents' opinions. The answer themes which came above all were: easiness of computer usage, they could trust more the Internet and computer screen. PC (personal computer) with Internet connection would not crash in the middle of the reservation and that it is easier to copy and save information at the same time if for example Internet connection cuts off. Also from the computer screen was easier to see all information than from a mobile screen. Some of the respondents were in the opinion that the Internet often has more information on it. Most of the answers were:

"I have no experience with Mobile Travel Applications, so at the moment I believe Internet is the most convenient way"

Some respondents were first looking at the prices through an application but when it came to booking the trip they chose PC with an Internet. Furthermore the negative things about the mobile usage were that the keyboard, screen and font is too small. Also Mobile Travel Applications are expensive to use abroad if there is no possibility to use the app offline. However, some of the experienced application users thought that a simple trip with no high requirements is easier to book by using a Mobile Travel Application than any other device because it is always in your pocket nevertheless. Also it was said that:

"Using a mobile app makes comparing quite simpler... It is so easy just pick up your phone and make the reservation. No need for laptop or tablet".

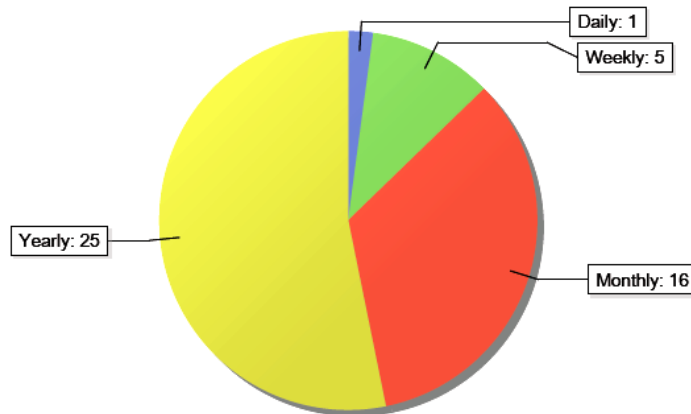
Some respondents promoted the traditional shops by saying:

"I like travel agency. Tour agency explains and answers my questions right there as in 'face to face' communication with personalized reviews of my travel package. I always have a contact person whom to talk to if something goes wrong."

13. How often do you use your Mobile Travel Applications?

Section III: Information about your usage of Mobile Travel Applications. Please answer what refers to you.

N=47



	Age:, Gender:			
	21-30, Male (N=8)	21-30, Female (N=11)	41-50, Male (N=6)	41-50, Female (N=2)
Daily	0	0	1	0
Weekly	3	1	0	1
Monthly	1	4	2	1
Yearly	4	6	3	0

Figure 2 How often do you use your Mobile Travel Applications?

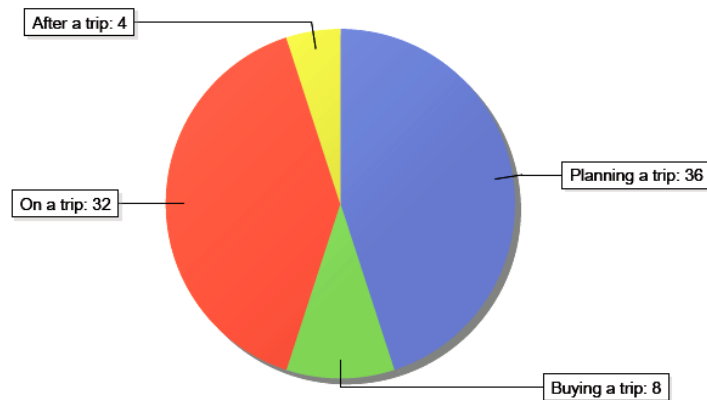
Subsequently question 13 of how often would a Mobile Travel Application consumer use their applications (N = 47). Most of the respondents would use it yearly (25) as seen in the figure 2 above. Secondly was monthly usage of MTA's (16) and thirdly weekly usage with only five answers. In the cross-tabulation of this question can be seen that most of the females, aged 21 to 30, and males aged 41 to 50 uses their application yearly or monthly, whereas males aged 21 to 30 use it yearly or weekly.

Question 14 asked what time of the trip would they use their applications (N = 47). There was given five different time levels of usage as according to Buhalis & Costa (2006, 10) of the three stages of tourism consumption but this was put on a broader scale: before a trip, on a planning stage, buying stage, on the trip or after the trip. Most of them would use MTA's when planning a trip and on a

trip as seen below in figure 3. On the cross-tabulation figure it is seen how males aged 21 to 30 uses their MTA's quite evenly in every stage of their trip but males aged 41 to 50 only on the planning and on a trip stage.

14. Do you use your Mobile Travel Application when you are: (please mark as many as relevant)

N=47



	Age:, Gender:			
	21-30, Male (N=9)	21-30, Female (N=11)	41-50, Male (N=6)	41-50, Female (N=2)
Planning a trip	8	8	5	1
Buying a trip	3	1	0	0
On a trip	4	7	6	2
After a trip	3	0	0	0

Figure 3 When do you use your Mobile Travel Application?

4.2.2 Usability of MTA's

Question 15 specified problems that the users have had when using MTA's (N = 31). If the user has had difficulties they could mark as many answers as it was relevant for them. Mostly the problem was in the slow service (19) which is related to the Internet and Wi-Fi connection. Secondly was the unavailable service where the service that the user wanted to have was not available (14). This can be seen more detailed in the figure 4.

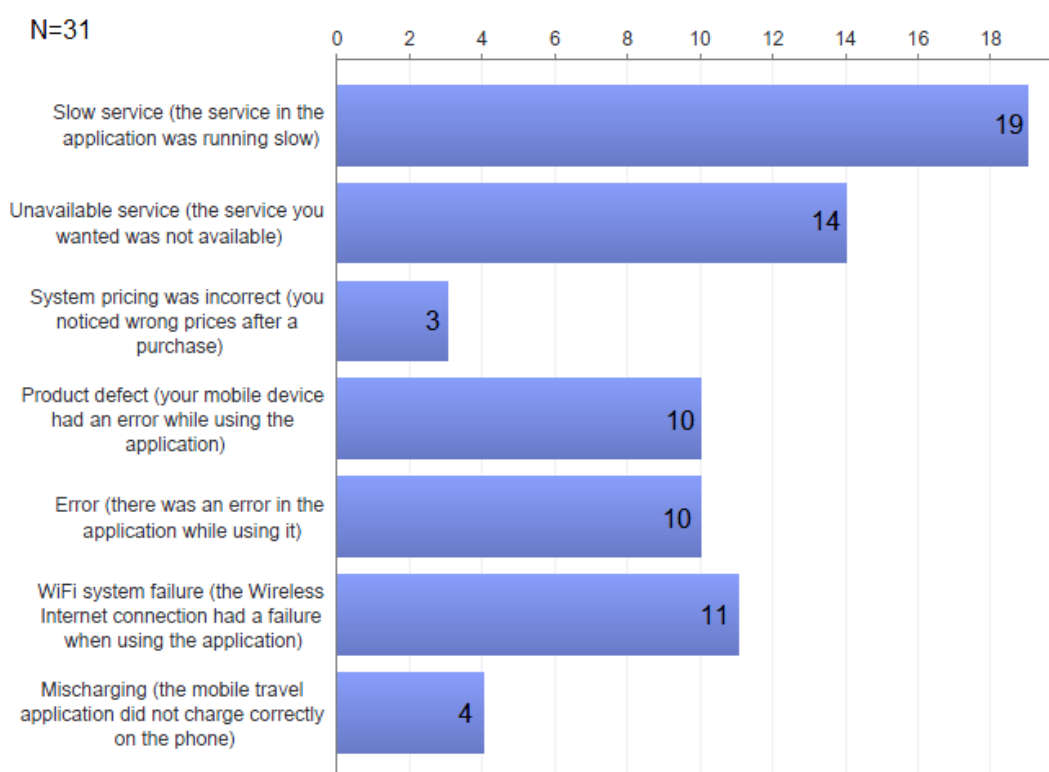


Figure 4 What kind of difficulties have you had when using your Mobile Travel Application?

In question 16 respondents could specify any other problems or errors in their own words (N = 15). There were 15 answers. Some of them did not trust the applications and the Internet connection. Also the roaming and data usage costs were seen too high. One of the respondents wrote that:

“The only application that I have used kept loading and loading the page and information, and never accomplishing the wanted result”.

One respondent had many doubts about the usability of already existing apps:

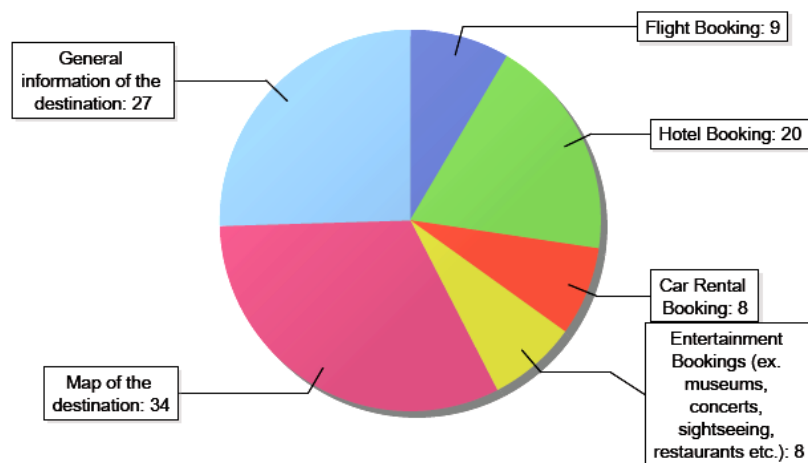
“Can I trust that I have all the data available from various sources? Where does the data come from and what is missing? Am I getting the best and all options with this app?”

Four answers from 15 have had no problems what so ever when using their Mobile Travel Applications.

The best service what a consumer wants to have in their Mobile Travel Applications was a map of their destination (N = 47). General information of the destination came second and after that a hotel booking as seen in the figure 5 below. Flight booking, car rental booking and entertainment bookings as concerts, restaurants, museums etc. had the lowest score in the hoped service of Mobile Travel Applications. Cross-tabulation shows how males of age 21 to 30 think that hotel bookings are the best service and females of same age group are pro map of the destination and general information as in males of age 41 to 50 think that these three are equally best services when using MTAs.

17. What is the best service when using a Mobile Travel Application? (please mark as many as relevant)

N= 47



	Age:, Gender:			
	21-30, Male (N=9)	21-30, Female (N=12)	41-50, Male (N=6)	41-50, Female (N=2)
Flight Booking	4	1	1	0
Hotel Booking	8	3	3	1
Car Rental Booking	5	2	0	0
Entertainment Bookings (ex. museums, concerts, sightseeing, restaurants etc.)	3	3	0	0
Map of the destination	7	9	3	2
General information of the destination	5	8	3	1

Figure 5 What is the best service when using a Mobile Travel Application?

4.2.3 Users Opinions of MTA's

Second-to-last there was asked if the consumers would feel as if they would have a personal tour guide in their pocket when having a smartphone with them on a trip (N = 54). Majority answered that it does not feel as if they have personal tour guide (19) but 18 answered yes and 17 did not know. This means that the distribution of respondents in this question was very even.

Finally question 19 asked to place free comments about the questionnaire and other proposals of future travel applications (N = 21). This redeemed to 21 answers in total. One said:

“Those few Mobile Travel Applications I have used so far haven't yet convinced me”

Trust issue came up mostly in the responds to this question as well. Many of the respondents had negative opinions and would doubt that from an app would be even possible to buy a whole trip and then trust that the trip is valid. What one of the respondents wants to have is simple user interface where when opening an application it will recognize user's location, offer from user preferred category (food, fast food, subway, buss, train etc.) in walking distance or in the order from a distance.

4.3 Discussion and Future Predictions

According to the results of the questionnaire the average responder was a male, aged 21 to 30, had a bachelor's degree, came from Europe and owned a smartphone with applications in it. Same kind of results has been seen in the Google research of demographics Internet smartphone users, where 58% males aged 25 to 34 had the most answers (Google 2012, 41) As the questionnaire respondents were mostly in the age group of 21-30, this might be because of the sampling method when using e-mail and facebook with the same age group as a primary source. Comparing the results to a European Travel Com-

missions study of the actual hotel bookings via Mobile Travel Application the result comes close to this study where respondents came mostly from Europe (Mobile Apps ETC Digital 2012). Seeing both of these studies it can be said that Mobile Travel Applications are usable and in use in Europe and in America. Any other conclusion made would be false because of the low respond rates of other continents of the world.

Interesting aspect was to see how the answer amount drastically dropped from 70 in question 11 to 48 answers in question 12. This might be that today's online users do not have time to do even a short questionnaire or do not want to explain their doings for someone else.

One remarkable result of the questionnaire shows that when Mobile Travel Application users are planning a trip they use their application more than on a trip. This was also in the result with New Media Trend Watch (2012). However, when asked about the best service of an application the answer with most responds is a map of the destination which refers that the users want to use the applications on a trip than on the planning stage. This means that the best service is considered on a trip rather than planning it or even buying it. For the future application makers this would be good point in making apps which have a good usable map of the destination and more general information about the place visiting. As the Google (2012) research shows that daily usage of mobile apps are when searching products, secondly when searching restaurants, pubs or bars and thirdly when searching travel information. It can be said that in that study as well best service is on a trip when there is the real need to look for products or restaurants. (Google 2012, 15) Seeing this from the cross-tabulation view the females and males in age group 21 to 30 use apps in the planning stage when females and males aged 41 to 50 use apps when on a trip.

As the study shows many people are afraid to use their mobile phones abroad and especially smartphones. The usual factor is the money, as it is true that calling or texting from abroad has its costs. Also when using Mobile Travel Applications it is often necessary to have an Internet connection, because of this the users are afraid of the high costs of Internet usage abroad. However, there

is no need to be afraid to use smartphones on a trip when the roaming is turned off in the mobile phone settings. This is possible in every smartphone as mentioned earlier in the thesis. Using the apps which require connection to Internet is possible abroad in places where they serve free-WiFi access. From open question responses it came clear that when people have not enough experience of the use of their smartphone apps they are afraid to use them at all and especially abroad. Some respondents wish there would be more of free offline applications to use in their travels abroad when there is no need to be scared of the high roaming costs afterwards.

As it can be seen in the questionnaire results of the MTA users can be divided into two categories as according to Buhalis (2003, 131): *destination-knowledgeable* and *destination-naive* consumers. This is because specifically the qualitative answers showed that some of the respondents had more knowledge on the Mobile Travel Applications but most of them were still the destination-naive users who were first time using applications or have not used the applications at all. This might be because at that time when the questionnaire was made was Mobile Travel Applications not that common as the usage of smartphone increases every day. As one respondent wrote:

“I have no experience with Mobile Travel Applications, so at the moment I believe Internet is the most convenient.”

As in the results most of the users have used their travel apps when comparing prices of flights, hotels etc., however, ended in buying the same flight or booking the hotel from PC and Internet. Many of the Mobile Travel Application users do not trust the apps when there is customer's money involved. There should be shown more of the safe sides of application use in the future in order to get the consumer convinced.

Common problems, when using an app, have been when the Internet connection is crashing. Respondents of this study are in the same opinion that freezing or crashing of the app, loading of the app is slow and it did not function as expected. What is striking to see, from the open question results, is that the con-

sumers want their Mobile Travel Applications to be as convenient as possible that means easy and fast to download, but also use and keep it with through the whole trip. For future studies it would be interesting to try to find out more why consumers do not trust the applications and what could be done to make them more reliable.

Future predictions show how smartphones are increasingly used for connection purposes with services, other consumers but also for reading and writing emails. Whereas the use of computers is slowing down regarding the overall time spend on a daily basis. Future consumers think that PC's can be replaced by tablet devices (ETC Digital 2013). This kind of thinking cannot be seen in the results when the questionnaire was made. That might be due to one year process in consumers thinking and use of MTAs. The study showed how doubtful the respondents were regarding to the use of travel applications. In question 13 on how often MTAs are being used the results could mean that trips are being made yearly more rather than monthly or weekly basis because most of the respondents answered they use MTAs only yearly. Or then the answer could mean that the use of MTAs was in the starting point and had its first steps to the mobile revolution.

In the future consumers want to be in the front row to make better applications to meet their own needs as a customer in the travel industry. As said earlier the customers want to guide other customers (Ruiz-Molina et al. 2010, 468). This can be seen in the answers of question 7 where price comparison applications such as TripAdvisor where customers can write their own opinions about the hotel car rental etc, had the most votes in utilization rate.

Also in the last question of open comments and development proposals for new upcoming applications the answerers wanted to have simple apps which can help them to discover the destination and show where the data is coming from. This was also one of the results mentioned before in New Media Trend Watch (2012), those future users want simple applications. Seeing this from the "long tail" -models perspective it can be said that according to this questionnaire consumers are more interested on the "head" of the dinosaur than on the "tail"

which is too minimalistic and not as broad as the "head". They want one app to meet their needs from the planning stage to the end of their trip. More of the users' expectations for future application makers would be interesting point for an upcoming study to approach from. The challenge for future Mobile Travel Application makers is to make them more convenient and trustworthy for the future users in the mobile world.

5 CONCLUSIONS

As this thesis shows there is no doubt that the customers' buying behavior is changing towards the mobile world. This bachelor's thesis discussed shortly the history of Information Technology until this day in the tourism field. Everything in IT has happened in a heartbeat. The changes what Information Technology has made, have played enormous role in today's tourism business and will do in the future. The study discussed the effects of IT and its implementations till today. It opened up the concept of a smartphone and Mobile Travel Applications. Thesis looked the usability and buying behavior of smartphone use from a theoretical perspective.

The purpose of this bachelor's thesis was to give information about how to travel smart when using a smartphone and the Mobile Travel Applications in it and give tips for the Finnish tourism magazine Matkaopas. The challenge was to provide an introductory study of the topic that can be seen difficult to understand and report. To find out consumers buying behavior and usability of the MTAs there were used an online questionnaire. The study shows that the smartphones are being used increasingly and much more is being expected from them and also from their applications. The change of consumers' buying behavior is happening slowly. What future consumers seek is the feel of security, easiness and simplicity when using Mobile Travel Applications. Right now the usability of the applications is not in the expected point.

Today's customers want to be involved in producing the services they want for their time and money. They want apps that can not only inform but also educate them of their trips – see information that they were not expecting to see. For mobile travel business it is a real challenge to stay in the pace of needs and wants of the customers, because in the end consumers are the ones who rule the industry. As the old saying goes: "the customer is always right" and that should not be forgotten.

REFERENCES

- Bilgil, M. 2009. History of the Internet. Vimeo. Accessed: 13.11.2012. Available from: <http://vimeo.com/2696386>
- Buhalis, D. 2003. eTourism – Information technology for strategic tourism management. Essex, UK: Pearson Education Limited.
- Buhalis, D. & Costa, C. 2006. Tourism Business Frontiers. OX: Elsevier Butterworth-Heinemann.
- Buhalis, D. & Laws, E. 2001. Tourism Distribution Channels. London, UK: Continuum.
- Cao, T-D. & Nguyen, Q-M. 2012. Semantic approach to travel information search and itinerary recommendation. Internet Research. Emerald Group Publishing Limited, 8(3), pp. 256-277.
- Castaneda, A. J.; Frias, D. M. & Rodriques, M. A. 2007. The influence of the Internet on destination satisfaction. Internet Research. Emerald Group Publishing Limited, 17(4), pp. 402-420.
- Connon, N. 2011. Information Technology in the Service Sector. Lecture. Aberdeen: Robert Gordon University.
- Dawson, R. 2007. Emerging media business model frameworks. Accessed: 10.10.2013. Available from: http://rossdawsonblog.com/weblog/archives/2007/07/emerging_media.html [Accessed 7th May 2011].
- Doughty, K. 2011. SPAs (smart phone applications) – a new form of assistive technology. Journal of assistive technologies. Emerald Group Publishing Limited, 5(2), pp. 88-94.
- Egger, R. & Buhalis, D. 2008. Etourism Case Studies – Management and Marketing Issues. OX: Elsevier Ltd.
- ETC Digital. 2013. Latest Online Developments. Accessed: 10.10.2013. Available from: <http://etc-digital.org/digital-trends/consumer-behaviour/latest-online-developments/>
- GSMA 2012. Mobile SMS and Data Roaming Explained. Accessed: 10.10.2013. Available from: <http://www.gsma.com/aboutus/wp-content/uploads/2012/03/smsdataroamingexplained.pdf>
- Hemminki, P-N. 2010. Visit to KILROY travels Turku. [Interview] KILROY Turku, Finland. 27.09.2010.
- Hämeen-Anttila, T. 2003. Tietoliikenteen perusteet. Porvoo: WS Bookwell.

K-Alliance 2006-2012. History of information technology. Accessed: 13.11.2012. Available from: <http://www.kalliance.com/articles/history-of-information-technology.htm>

Mobile Apps 2013 European Travel Commision Digital Portal. Accessed: 8.10.2013 Available from: <http://etc-digital.org/digital-trends/mobile-devices/mobile-apps/>

New Media Trend Watch. 2012. Accessed: 27.10.2013 Available: <http://www.newmediatrendwatch.com/world-overview/91-online-travel-market?start=1>

Nieminen, H.; Saarikoski, P. & Suominen, J. 1999. Uusi media ja arkielämä. Turku: Turun yliopisto.

NOAA Ocean Explorer. 2010. History: Age of electronics (1923-1945). Accessed: 13.11.2012. Available from: <http://oceanexplorer.noaa.gov/history/electronic/electronic.html>

Persaud, A. & Azhar, I. 2012. Innovative mobile marketing via smartphones – are consumers ready? Marketing Intelligence & Planning. Emerald Group Publishing Limited, 30(4), pp. 418-443.

Ruiz-Molina, M-E.; Gil-Saura, I. & Moliner-Velázquez, B., 2010. Good environmental practices for hospitality and tourism: The role of information and communication technologies. Management of Environmental. Emerald Group Publishing Limited, 21(4), pp. 464-476.

Sheldon, P. J. 2001. Tourism Information Technology. OX: CABI Publishing.

Tilastokeskus. 2013. Yli neljännes 75-89 vuotiaista käyttää internetiä. Accessed: 12.11.2013 Available: https://www.tilastokeskus.fi/til/sutivi/2013/sutivi_2013_2013-11-07_tie_001_fi.html

Ting, D. H.; Lim, S. F.; Patanmacia, T. S.; Low, C. G. & Ker, G. C. 2011. Dependency on smartphone and the impact on purchase behaviour. Young consumer. Emerald Group Publishing Limited, 12(3), pp. 193-203.

TripAdvisor, 2013 Accessed: 03.11.2013 Available: <http://www.tripadvisor.com/>

Tripmate247. Windows 7 Phone Applications and Marketplace. Accessed: 4.12.2012. Available from: <http://www.appsfuze.com/applications/windowsphone.traveltools/tripmate247,443>

Tsiotsou, R. & Ratten, V. 2010. Future research directions in tourism marketing. Marketing Intelligence & Planning. Emerald Group Publishing Limited, 28(4), pp. 533-544.

Usability Net. 2006. International standards for HCI and usability. Accessed: 4.12.2012. Available from: http://www.usabilitynet.org/tools/r_international.htm#9241-11

Veal A. J. 2011. Research Methods for Leisure & Tourism: A Practical Guide. Essex: Pearson Education Limited.

Worldmate. Mobile Travel Itinerary. Accessed: 3.12.2012. Available from:

<http://www.worldmate.com/features/mobile-itinerary.php>

Picture 1 & 3 Google 2012. Our Mobile Planet: United States Accessed: 27.10.2013. Available

from: <http://www.google.com/think/research-studies/our-mobile-planet-united-states.html>

Picture 2 Mobile Apps ETC Digital 2012. TourismLink Accessed: 8.10.2013. Available from:

<http://etc-digital.org/digital-trends/mobile-devices/mobile-apps/>

Picture 4 GSMA 2012. Mobile SMS and Data Roaming Explained. Accessed: 10.10.2013.

Available from:

<http://www.gsma.com/aboutus/wp-content/uploads/2012/03/smsdataroamingexplained.pdf>

Picture 5 Communication and information needs in the three stages of tourism consumption.

Buhalis, D. & Costa, C. 2006. Tourism Business Frontiers. OX: Elsevier Butterworth-Heinemann.

Picture 6 “Long Tail” –model. 2011. Connon, N. 2011. Information Technology in the Service

Sector. Lecture. Aberdeen: Robert Gordon University.

Appendix 1. Mobile Travel Application Questionnaire

My name is Laura Parro and I am a student in Hospitality Management at Turku University of Applied Sciences, Finland. This questionnaire is part of my bachelor thesis which is a study of buying behavior and usability in Mobile Travel Applications. The aim of this questionnaire is to gather data about the usage of Mobile Travel Applications. The data will be used in resolving a thesis project which will be completed in the end of the year 2012. Mark the options that best refer to you as a user of Mobile Travel Applications. This survey is voluntary and the questionnaire is anonymous.

Section I: General information

Please answer the questions below.

1. Gender: ☐ Male ☐ Female

2. Age: ☐ 0-20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60
☐ 61-70 ☐ 71-80 ☐ 81- and up

3. From: ☐ Europe ☐ North America ☐ South America ☐ Africa
☐ Asia ☐ Australia

4. Education:

☐ Basic Education ☐ Upper Secondary School/Vocational Education
☐ Bachelor's Degree ☐ Master's Degree
☐ Doctor's Degree ☐ None

5. Do you own a smartphone?

(iPhone, Android Phone, Windows Phone, Blackberry, Symbian Phone etc.)?

☐ Yes ☐ No

6. If "Yes," have you downloaded Mobile Travel Applications in it?

☐ Yes ☐ No ☐ I don't know

*Section II: Information about your buying behavior.
Please answer what refers to you.*

7. Which Mobile Travel Application have you used in booking a trip*? (Please mark as many as relevant) *A trip refers to a journey, voyage, or run made by a boat, train or bus between two points

- ☐ Directly from the airline, hotel, car rental app (e.g. American Airlines, British Airways, Hilton, Marriott, Budget, Hertz etc.)
- ☐ Tour operator app (e.g. TUI, Thomas Cook etc.)
- ☐ Price comparison app (e.g. TripAdvisor, KAYAK etc.)
- ☐ Travel partner application (e.g. tripmate247, Triplt etc.)

8. Do you think buying a trip using a Mobile Travel Application is **the most convenient** way of shopping?

☐ Yes ☐ No ☐ I don't know

9. If you answered "No" what would be the most convenient way for you when buying a trip?

- ☐ Using traditional travel agency
- ☐ Using Internet

10. Do you think buying trips using Mobile Travel Applications is **less time consuming** than buying them traditionally from the shops or from the Internet in general?

☐ Yes ☐ No ☐ I don't know

11. If the trip has **the same price** where do you prefer to buy?

☐ Traditional Shop ☐ Internet in general ☐ Mobile Travel Application

12. Please specify why (you can answer in English, German, Finnish or Swedish if you please):_____

*Section III: Information about your usage of Mobile Travel Applications.
Please answer what refers to you.*

13. **How often** do you use your Mobile Travel Applications?

___Daily ___Weekly ___Monthly ___Yearly

14. Do you use your Mobile Travel Application when you are: (please mark as many as relevant)

___Planning a trip ___Buying a trip ___On a trip ___After a trip

15. If you have had **difficulties** when buying a trip using a Mobile Travel Application tick answers which refer to you: (please mark as many as relevant)

___ Slow service (the service in the application was running slow)

___ Unavailable service (the service you wanted was not available)

___ System pricing was incorrect (you noticed wrong prices after a purchase)

___ Product defect (your mobile device had an error while using the application)

___ Error (there was an error in the application while using it)

___ WiFi system failure (the Wireless Internet connection had a failure when using the application)

___ Mischarging (the mobile travel application did not charge correctly on the phone)

16. Please specify any **other problems** or errors you have encountered (you can answer in English, German, Finnish or Swedish if you please):

17. What is **the best service** when using a Mobile Travel Application? (please mark as many as relevant)

___Flight Booking

___Hotel Booking

___Car Rental Booking

___Entertainment Bookings (ex. museums, concerts, sightseeing, restaurants etc.)

___Map of the destination

___General information of the destination

18. Do you think when using a Mobile Travel Application it feels as if you would have a **personal travel guide in your pocket**?

___Yes ___ No ___ I don't know

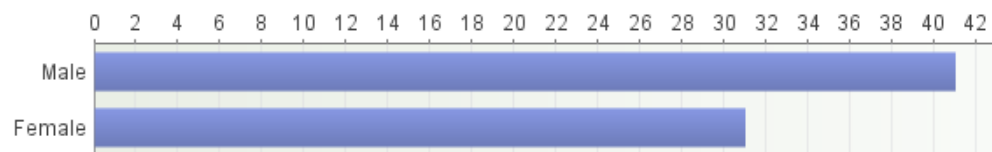
19. Please feel free to **comment** on the questionnaire (good and bad of the applications, development proposals, missing services etc.) You can answer in English, German, Finnish or Swedish if you please.

Thank you for your answers!

Appendix 2. Mobile Travel Application Questionnaire Answers

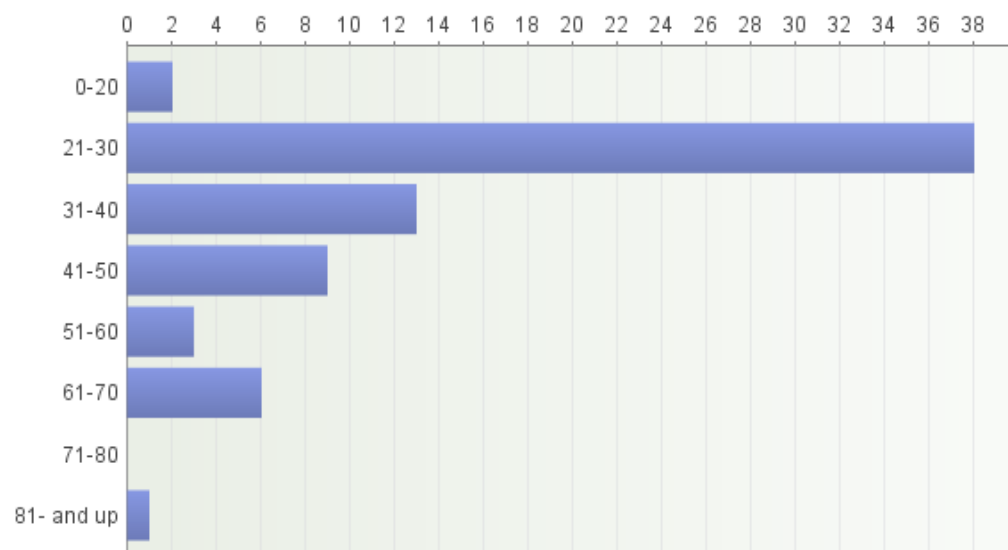
1. Gender:

N = 72



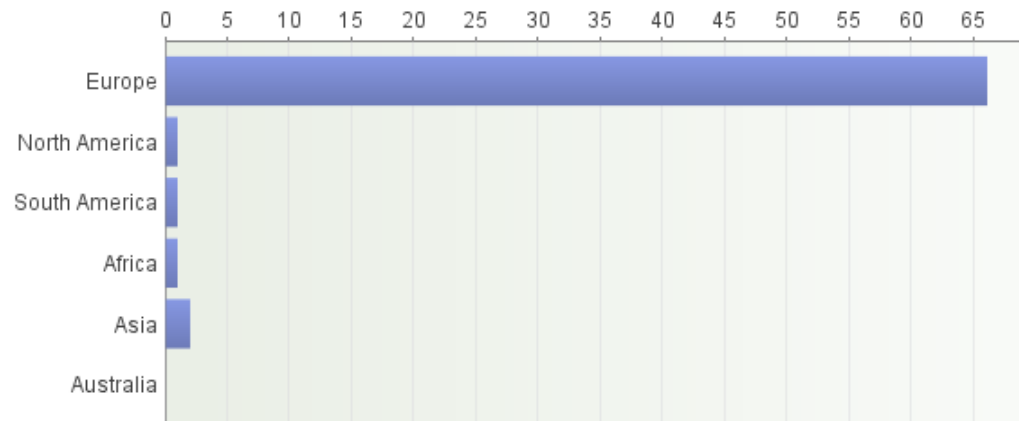
2. Age:

N = 72



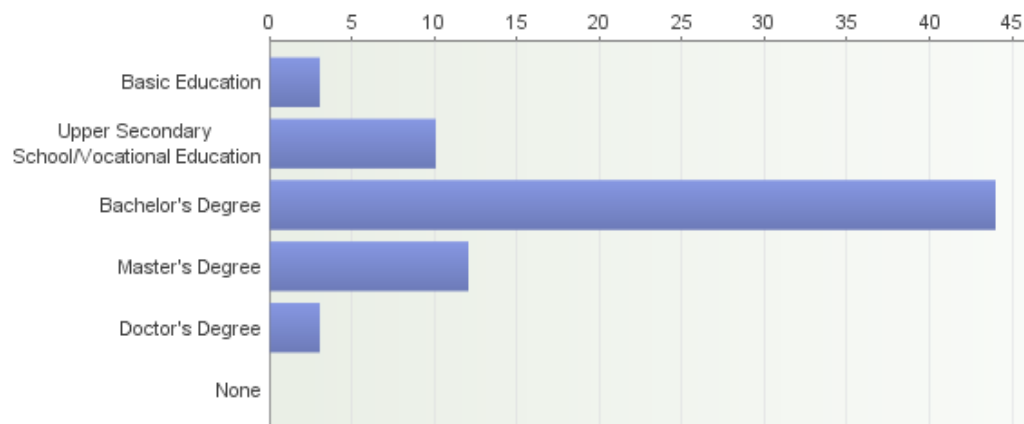
3. From:

N = 71



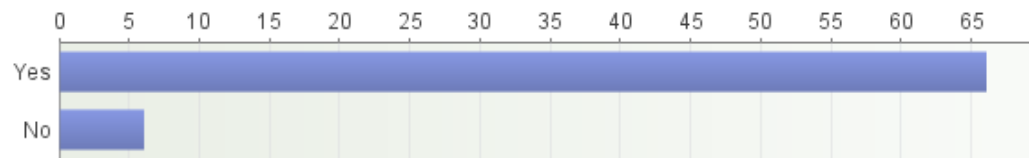
4. Education:

N = 72



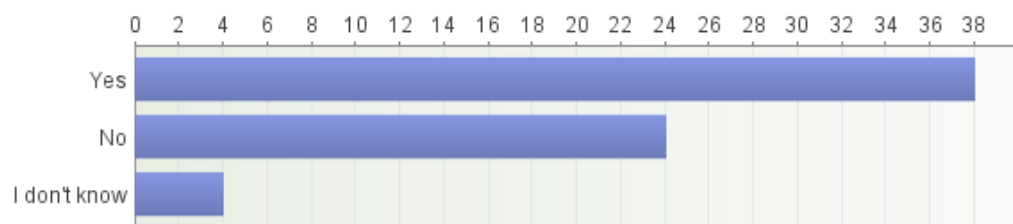
5. Do you own a smartphone (iPhone, Android Phone, Windows Phone, Blackberry, Symbian Phone)?

N = 72



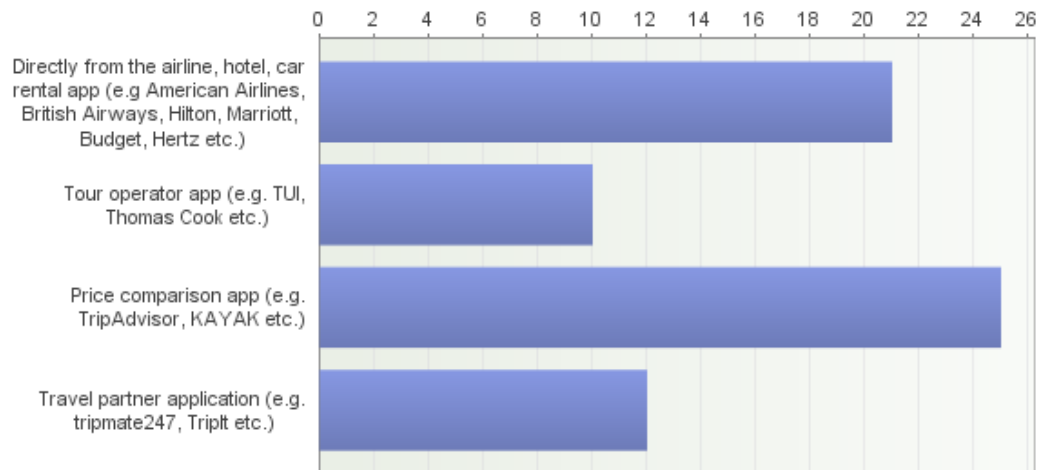
6. If "Yes", have you downloaded Mobile Travel Applications in it?

N = 66



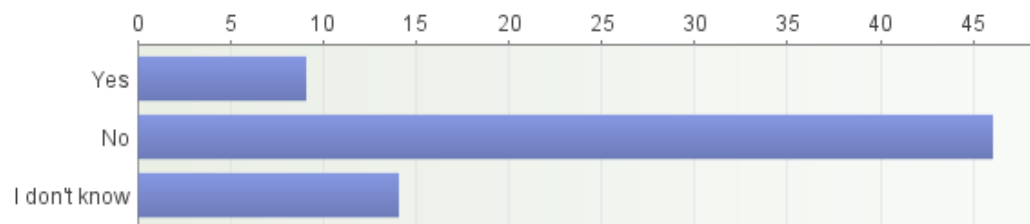
7. Which Mobile Travel Applications have you used in booking a trip*? (please mark as many as relevant) *A trip refers to a journey, voyage, or run made by a boat, train, bus or foot between two points.

N = 45



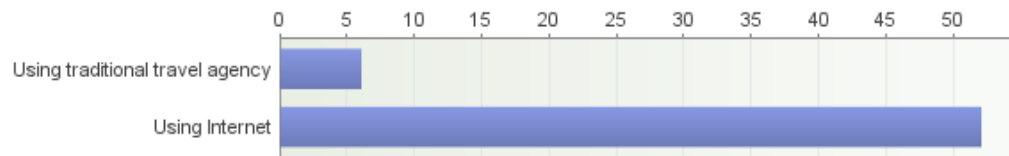
8. Do you think buying a trip using a Mobile Travel Application is the most convenient way of shopping?

N = 69



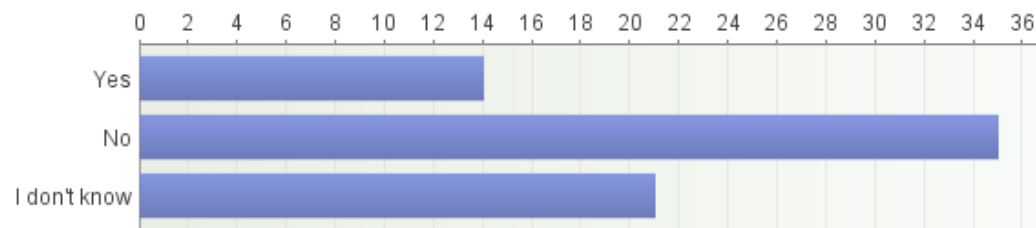
9. if you answered “No” what would be the most convenient way for you when buying a trip?

N = 58



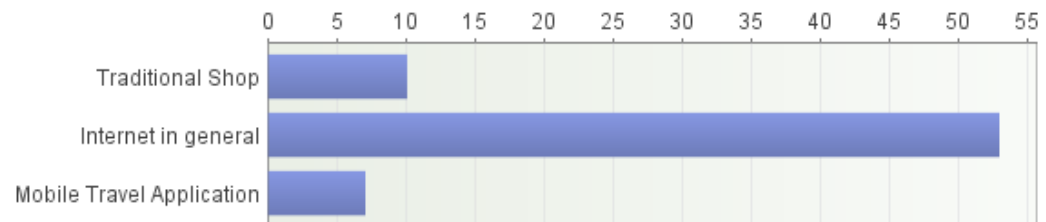
10. Do you think buying trips using Mobile Travel Applications is less time consuming than buying them traditionally from the shops or from the Internet in general?

N = 70



11. If the trip has the same price where do you prefer to buy?

N = 70



12. Please specify why (you can answer in English, German, Finnish or Swedish if you please):

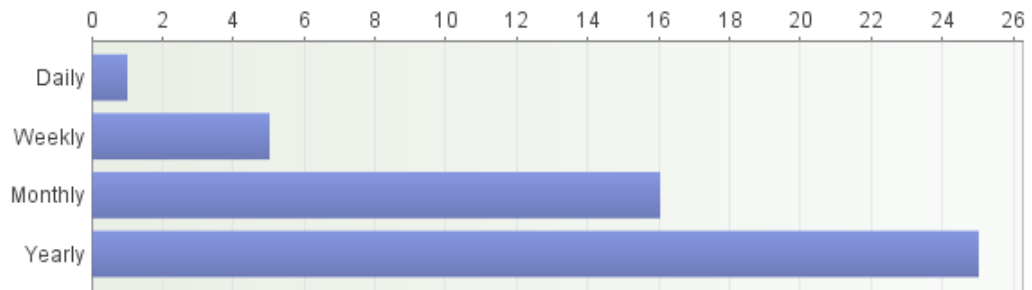
N = 47

- Just because of the size of my computer screen versus iphone screen, the computer is easier to use
- En ehkä kuitenkaan luota kaikkiin apseihin vielä ihan 100% verrattuna internetin varaus-sivustoihin. Appsit myös jumittuu aina silloin tällöin jolloin ei auta kun sulkea koko luuri. Luulen kuitenkin että suosio tulee kasvamaan entisestään tulevaisuudessa. Omalla kohdalla käyttö vaatii vaan totuttelua mutta uskon että jatkossa tulen varaamaan matkoja myös kännykällä! Tähän mennessä oon lähinnä katsellut tarjontaa/hintoja kännykkäsovellusten kautta mutta en ikinä ostanut.
- Mobiiliapplikaatioiden ja 3g-verkon luottamattomuuden takia ei koskaan tiedä kuinka monta kertaa joutuu varaamaan/täyttämään uudelleen, tietokoneen kautta helpompi kopioi-da/tallentaa tietoja jos jostain syystä joutuu keskeyttämään/yhteys katkeaa
- vanhasta tottumuksesta
- Koska puhelimesta ostamalla en pysty tulostamaan välittömästi matkan vahvistusta sekä näyttö on turhan pieni kaiken informaation näkemiseen samaa aikaa. Lisäksi internet yhteys saattaa olla hidas tai ei toimia ollenkaan. Matkatoimistossa asiointi vie turhan paljon aikaa ja sinne täytyy erikseen lähteä.
- I have no experience with mobile travel applications, so at the moment I believe internet is the most convenient way.
- Koneella yhteyden turvallisuus tuntuu paremmalta (kännykässä usein random avoin wifi tms) ja isommalta ruudulta on kivempi selata.
- It really depends on the app and the wishes/requirements you have for your travel. If you need to book a 'simple' travel that does not have any high requirements, an app is easier to book. However, if you have very specific requirements, the internet (just a normal website) often has more information on it.
- It's the most common and easiest way for me.
- I can print my ticket immediately
- Jos Internetissä on selvät ohjeet, internetin käyttö on nopeaa ja helppoa.
- Jag vet inte ännu så mycket om sådant här mobile applications. Jag är för gammal tror jag. Önskar Jonna 27 år.
- I find the internet (on my laptop or desktop) is easier and feels easier than using a handheld device
- Personally I like travel agency, tour agency explains and answers my question right there.
- Face to face communication.
- Some of the Mobile Travel Application do not show all the needed information and the safety is better when using laptop.
- Wegen einer hoffentlich besseren Beratung und persönlichen nicht gefälschten Erfahrungsberichten. Falls etwas nicht so ist wie gebucht hat man einen Ansprechpartner!
- I'M used to it.
- I do not have to spend time to find out the best solution for the trip. All flights are not in all systems.
- More used to the Internet
Have access most of the time
Phone can be slow on 3G (UK) or expensive to use if abroad
- Jos hinta on sama , niin kätevimmin ostamisen voi suorittaa kännykällä, toisaalta hinta-vertailun tekeminen kännykällä on mielestäni hankalaa.
- internetissä vertailumahdollisuudet tuntuvat laajemmilta
- Internetiä käyttämällä matkan varaaminen on kuitenkin kätevää, koska puhelimella se on jotenkin kömpelöä. Koneella klikkaileminen antaa jotenkin selkeämmin kuvan tilanteesta ja tuntuu, että sitä käyttäessä potentiaalisten virheklikkauksien todennäköisyys on

- pienempi.
- because in a traditional shop, I get hopefully further consultations.
 - I think it is the fastest way of shopping and getting the best deals ex. in buying flights because those prices can change every hour. Smartphone is everywhere where you go, PC or traditional agency is not.
 - I feel computers are more user friendly. I use computers a lot.
 - I find the internet is easier to use, there are more options to go through and I feel that using a computer is more convenient and easier than using a small screened mobile phone.
 - minusta on mukavampi käyttää isompaa näyttöä
 - Prefer a large screen
 - Eri vaihtoehtojen etsiminen ja hintojen vertailu on helppoa, jos sen voi tehdä internetissä käytettävissä olevien eri hakukoneiden ja muiden sivustojen avulla. Ei ole realistista olettaa, että mihinkään yksittäiseen mobiilisovellukseen voitaisiin integroida kaikkia internetissä saatavilla olevia esimerkiksi hotellien tai lentolippujen verkkokauppoja. Kannettavalla tai pöytätietokoneella sujuu helpommin tietojen syöttö, hakutulosten katselu sekä myös lippujen tulostus paperille. Esimerkiksi ulkomaan lennolle en välttämättä lähtisi ilman paperista lippua.
 - I'm used to use it and haven't used any Mobile Travel App.
 - Internet is very easy
 - I am familiar to use internet in my bookings
 - Mobiililaitte tuntuu kovin pieneltä ja hankalalta käyttää jonkin matkan varaamiseen tai ostamiseen. Tietokoneella on mielestäni helpompaa hakea tietoa samaan aikaan muualtakin netistä.
 - I feel internet as an option is more convenient like to compare options, mainly due to that you can use bigger screen. Also internet connection is more valid option to me to complete a purchase, at least a slightly bigger one, than using a mobile application.
 - The screen on a computer is a lot bigger, so it's easier to scroll, check different things, compare etc.
 - mobile is always with me and good app for it would be great. it would make things easier
 - Selain mahdollistaa usean vaihtoehdon pitämisen auki eri välilehdillä tai ikkunoissa. Samoin muu taustatieto helpommin esillä (kartat, spostit, jne).
 - Using mobile app makes comparing quite simpler
 - Usually the applications for reserving and paying for trips are rather.. well poorly made. They don't build your trust towards the company. That is my biggest concern. They usually work really well but there still is that little voice in your head saying "can you really trust this one.." and then I go back to ordering stuff online.
 - Turvallisuuden takia käyttäisin internetiä. Ajankäytöllisesti ei eroa ole puhelimen ja netin välillä. Tutkailen usein hintoja puhelimella mutta itse osto tapahtuu netistä.
 - It is so easy just pick up your phone and make the reservation. No need to laptop or tablet.
 - I feel that by using normal internet connection is more secure and trustworthy because on computer screen I usually see more information at the same time.
 - Asia tulee selväksi, on tietty toimipiste jossa voi käydä keskustelemassa jne. ei kasvoton sähköposti johon vastataan jos vastataan.
 - No need to go anywhere to do the actual buying. Also a possibility to review options is a bonus
 - Mobile apps are slow if in 3g network and typing in information is slow and annoying compared to traditional keyboard. Small screen is also annoying. Internet is the most convenient way for booking trips. You can book your trip when ever you want.
 - Netistä saa helposti ja luotettavasti ostettua matkoja. Tietokoneen kautta mieluummin kuin älypuhelimien, koska älypuhelimien näyttö on pieni ja näppäimistö on epäkäytännöllinen.

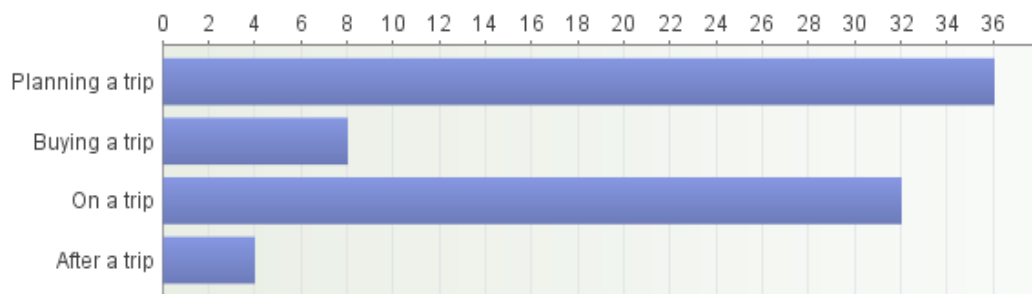
13. How often do you use your Mobile Travel Applications?

N = 47



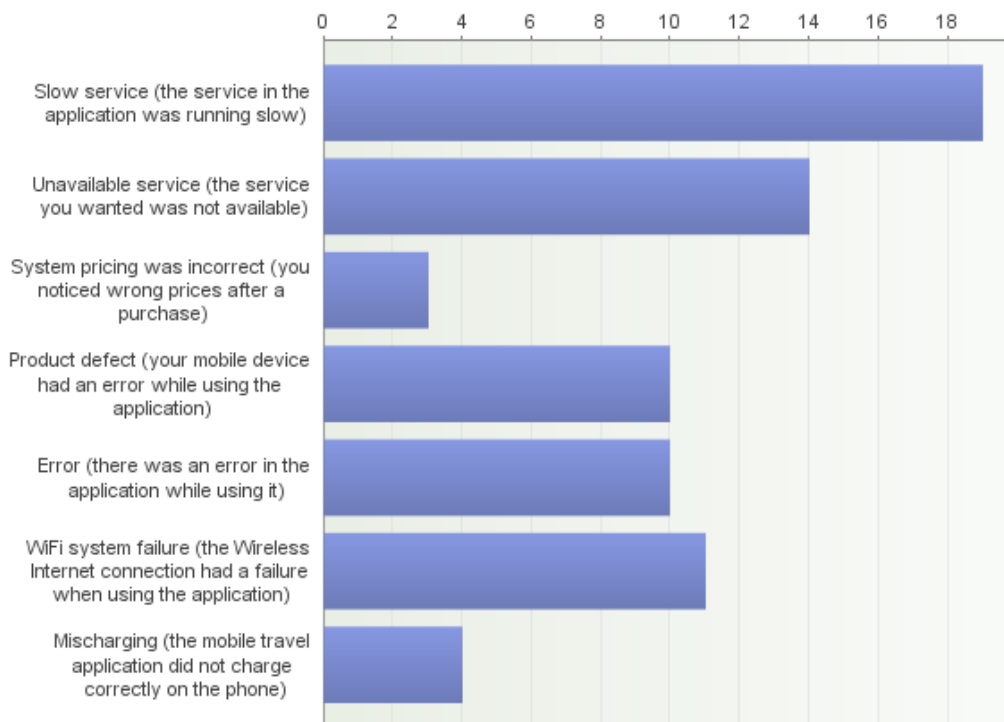
14. Do you use your Mobile Travel Application when you are: (please mark as many as relevant)

N = 47



15. If you have had difficulties when using a Mobile Travel Application tick answers which refer to you: (please mark as many as relevant)

N = 31



16. Please specify any other problems or errors you have encountered (you can answer in English, German, Finnish or Swedish if you please):

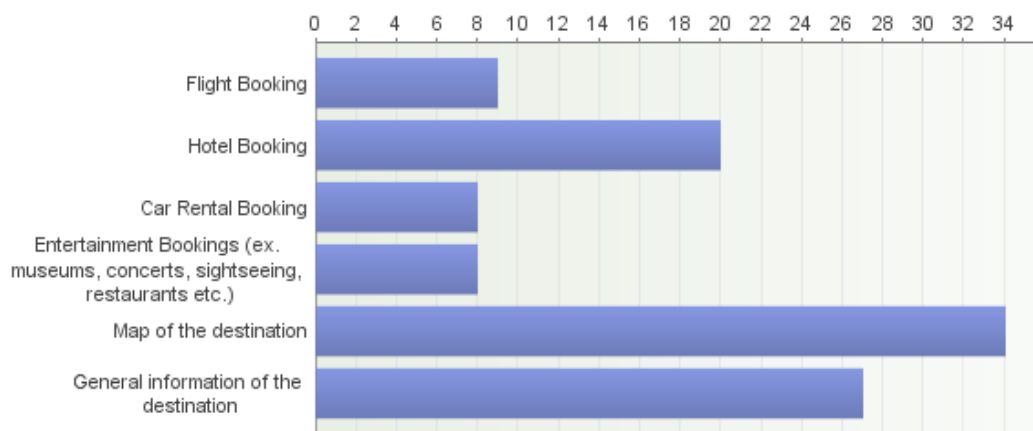
N = 14

- en osaa hyödyntää puhelimen palveluja vielä riittävästi
- I haven't really used it that much!
- as above
- ainoa sovellus, jota olen käyttänyt, vain latasi ja latasi tietoja koskaan niitä saavuttamatta.
- I don't believe they will show competitive price.
- No particular problems
- Monet älypuhelinsovellukset siirtävät dataa verkon yli. Käyttäjällä ei välttämättä kuitenkaan ole mahdollisuutta kontrolloida siirretyn datan määrää tai saada sitä edes selville. Suomessa monilla käyttäjillä on kiinteään kuukausihinnoitteeseen perustuva dataliittymä, mutta ulkomailla laskutus perustuu edelleen siirretyn datan määrään. Ulkomaan datasiirron hinnat ovat vieläkin varsin korkeat EU:n komission asettamasta dataroamingin hintakatosta huolimatta. Koska datasiirron hinnat ovat korkeahkoja ja laskun suuruuteen liittyy tiettyä epävarmuutta, en lähtökohtaisesti käytä ulkomailla lainkaan mobiiliverkon kautta dataa siirtäviä sovelluksia.
- no other problems
- NA

- Can I trust that I have all the data available, from various sources? Where does the data come from and what is missing? Am I getting the best and all options with this app!
- The applications crash too many times for various reasons.
- Ei ongelmia, en käytä 3G:tä tai Wifiä vaativia sovelluksia matkoilla.
- The main problem abroad is of course the price using the service, e.g. roaming costs.
- 3g network is too slow for using travel apps fluently.

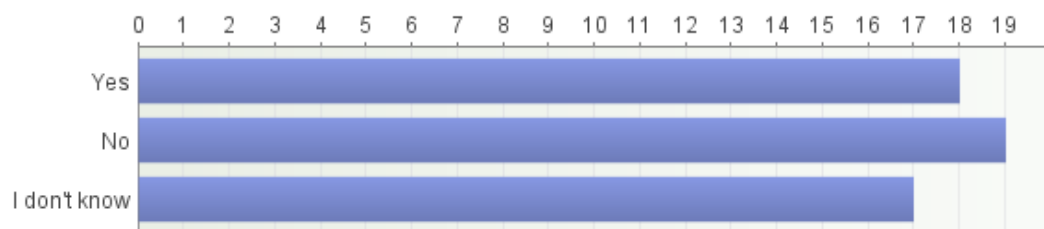
17. What is the best service when using a Mobile Travel Application? (please mark as many as relevant)

N = 47



18. Do you think when using a Mobile Travel Application it feels as if you would have a personal travel guide in your pocket?

N = 54



19. Please feel free to comment on the questionnaire (good and bad of the applications, development proposals, missing services etc.) You can answer in English, German, Finnish or Swedish if you please.

N = 20

- Voisit järjestää kysymykset siten, että jos vastaa kysymykseen "Käytätkö appseja" "en" - hyppää kysymykseen x
- omat taidot vielä puutteelliset. ehkä ajan mittaan tottuu kuten internetiäkin, pikku hiljaa
- Mikäli ei ole käyttänyt kyseistä Applicationia vastaukset jäävät melko vähäisiksi. Toivottavasti niistä kuitenkin on apua opinnäytetyössä.
- Ei ole oikein sellaisia vaihtoehtoja kuin "en ole koskaan käyttänyt".
- I would like to receive the results of this thesis. Could you please send them to jurjen.kalsbeek@maintrackservices.com? I am actually from the company which made the tripmate247 app and therefore I am very interested in the results. Good luck with your thesis!
- I haven't used my apps to buy any services, yet. I think the most problems will come in buying process.
- I prefer the internet on my laptop to search!
- n/a
- i am just using App's for booking flights and raitix. Over and above that, I'm using for Flight Checkin
- More travel apps to windows phones!! Also a trust issue...can you trust the apps on buying the whole trip from one place. Does it really work in real life? Good luck with your thesis!
- - Mobiileja matkustussovelluksia on monia erilaisia. Niiden vaihtoehtoina ovat selainpohjaiset palvelut, jotka eivät vaadi ohjelmiston asentamista itse laitteeseen. Jotta mobiililaitteeseen asennettavaan ohjelmistoon perustuva ratkaisu olisi järkevä, tulisi sen tarjota lisäarvoa kevyempään selainpohjaiseen ratkaisuun nähden.
- Kyselyn aihepiiri on mielenkiintoinen ja nopeasti kehittyvä
- I can't answer all questions as I have not used MTA.
- -
- Those few mobile travel applications I have used so far haven't yet convinced me, and on the other hand even my internet usage is still on a learning curve! All the best for you with your studies!
- Saving options for comparion and selection. Showing explicitly where is the data coming from. Making sure and convincing me that I will get all necessary data from the app and that the deals are good.
- All in all a nice survey
- Tällä hetkellä parhaimpia ohjelmia ovat ennen matkaa eri vaihtoehtojen tutkimista helpottavat ohjelmat, suosikkina booking.com.
Mitä haluaisin: yksinkertainen käyttöliittymä; avaan ohjelman, tunnistaa sijaintini, tarjoaa haluamastani kategoriasta (ruoka, pikaruoka, metro, bussi...) kävelyetäisyydellä olevat (itse määrittelemäni etäisyys) mahdollisuudet. Tai toista tietä, haluamani kategorian jutut etäisyysjärjestyksessä.
- Data transfer costs are too great abroad.
- You could add mobile guide books/services on your list, like Lonely Planet, Trip Advisor and such. Also various map apps are very useful, like tube maps.